position (as depicted) by springs or other retaining features (not depicted). When an external magnetic field approaches electrical connector **900** as shown in FIG. **9**B, magnet **908** is drawn towards the end of electrical contacts **904**. This configuration can increase the strength of a magnetic coupling that helps maintain an electrical coupling between electrical connector **900** and another magnetic connector.

FIGS. **9**C-**9**D show cross-sectional side views of electrical connector **900** in accordance with section lines A-A and B-B, respectively. In particular, FIG. **9**C depicts a retention feature taking the form of spring **906**. In FIG. **9**C spring **910** is depicted having biased magnet **908** and shunt **912** towards a rear end of electrical contact **904**. Shunt **912** directs a magnetic field emitted by magnet **908** out and away from connector **900** and towards connector **920**. This can increase the range of magnet **908** and reduce the likelihood of that magnetic field from interfering with other electronics associated with connector **900**.

FIG. **9**D shows how when connector **900** gets close enough to connector **920** the resulting magnetic force between magnet **908** and connector **920** can exceed the force being applied by spring **910** so that magnet **908** is drawn towards the front of electrical contact **904**. In this way, a magnetic coupling between electrical connector **900** and connector **920** can be maximized when the two connectors are coupled together.

FIGS. **10**A-**10**B show an alternative design taking the form of connector **1000**. FIG. **10**A depicts connector **1000** and how it includes magnet **1002** and shunt **1004**, which both remain stationary with respect to electrical contact **1006** regardless of the application of an external magnetic field. FIG. **10**B shows how both electrical contact **1006**, magnet **1002** and shunt **1004** move in response to approaching magnetic connector **1010**. This movement is made possible by a sliding connection between electrical contact **1006** and lead **1008**. The sliding connection can take many forms, including but not limited to a bearing with stops allowing a predefined amount of movement of electrical contact **1004** with respect to lead **1008**.

FIGS. **11**A-**11**B show multiple views of a connector plug **1100** similar to the embodiments depicted in FIGS. **9**A-**10**B. In particular, FIG. **11**A shows how connector plug **1100** has a pill-shaped protrusion that includes four electrical contacts **1102** and can be packaged with circuitry allowing for plug **1100** to be electrically coupled with receptacle connector **1152** of electronic device **1150** in either of two orientations. Plug **1100** can also include insulating material **1104** disposed between each electrical contacts **1102**, which are operable to electrically isolate each of electrical contacts **1102** from each other. Similarly, receptacle connector **1154** includes an insulating material pattern corresponding to the arrangement of insulating material **1104**. Both receptacle connector **1152** and plug **1100** can include magnets for facilitating a robust connection between connector plug **1100** and receptacle connector **1152**. As described above, the magnets can be arranged in a complementary array configured to facilitate precise alignment of connector plug **1100** with receptacle connector **1152**. In some embodiments, the pill-shaped protrusion of connector plug **1100** can be configured to extend and retract when approaching and drawing away from receptacle connector **1152**. This can be carried out in many ways, including ways similar to those depicted in FIGS. **10**A-**10**B.

FIG. **11**B shows an example of how a magnetic connector similar to the one depicted in FIGS. **10**A-**10**B can be used to provide a magnet and electrical connector behind electrical connector **1102***b*. Such a configuration beneficially allows the retraction of magnet **1108** away from electrical connector **1102***b* when the connector is not in use. Such a configuration would reduce the likelihood of magnet **1108** adversely affecting other magnetically sensitive components when connector **1100** is not in active use. This configuration could also prevent connector plug **1100** from inadvertently becoming electrically coupled with another device that doesn't include magnetically attractable material sufficient to attract magnet **1108**.

The various aspects, embodiments, implementations or features of the described embodiments can be used separately or in any combination. Various aspects of the described embodiments can be implemented by software, hardware or a combination of hardware and software.

The foregoing description, for purposes of explanation, used specific nomenclature to provide a thorough understanding of the described embodiments. However, it will be apparent to one skilled in the art that the specific details are not required in order to practice the described embodiments. Thus, the foregoing descriptions of specific embodiments are presented for purposes of illustration and description. They are not intended to be exhaustive or to limit the described embodiments to the precise forms disclosed. It will be apparent to one of ordinary skill in the art that many modifications and variations are possible in view of the above teachings.

What is claimed is:

1. An electronic device, comprising:
- a device enclosure defining a connector opening;
- a contact structure located in the connector opening in the device enclosure, the contact structure comprising:
- a contact housing defining a plurality of passages wherein each passage has an opening at a surface of the contact housing; and
- a plurality of spring-biased pin assemblies arranged in a linear configuration and configured to carry at least one electrical signal, each of the spring-biased pin assemblies located in a corresponding passage of the plurality of passages, wherein each spring-biased pin assembly of the plurality of spring-biased pin assemblies comprises:
  - a barrel defining a channel and having a first end electrically coupled to circuitry within the electronic device and a second end, the second end opposite the first end and having a pin opening;
  - a movable pin assembly disposed within the channel, the movable pin assembly extending through the pin opening in the barrel and having a non-planar contact surface;
  - a magnet disposed within the channel and positioned adjacent the first end, and
  - a spring disposed within the barrel and positioned between the non-planar surface of the movable pin assembly and the magnet.

2. The electronic device as recited in claim **1**, wherein the non-planar surface is non-orthogonal with a direction of travel of the movable pin assembly within the channel.

3. The electronic device as recited in claim **1**, wherein the electronic device comprises a keyboard.

4. The electronic device as recited in claim **1**, further comprising a plurality of magnets aligned with a linear configuration of the plurality of spring-biased pin assemblies and configured to keep the contact structure in contact with a corresponding receptacle connector.

5. The electronic device as recited in claim **4**, wherein one or more magnets of the plurality of magnets is disposed